

REMARKS

Claims 53 - 65 and 164 - 176 have been previously withdrawn from consideration. No new matter has been added. Claims 1 - 52 and 66 - 163 remain pending in the present application. In view of the following remarks, it is respectfully submitted that all of the presently pending claims are in condition for allowance.

Claims 115 and 141 stand rejected under 35 U.S.C. §102(b) as anticipated by Talos et al. (US Pat. 5,709,686).

Claims 115 recites a bone plate comprising upper and lower surfaces and at least one first type of hole “elongated and extending through the upper and lower surfaces, and having a central axis and a longitudinal axis, wherein *the first type of hole is at least partially threaded and the threaded portion of the hole tapers inward with respect to the central axis*” in combination with “a second type of hole extending through the upper and lower surfaces, wherein the second type of hole is substantially non-threaded”.

Similarly claim 141 recites a bone plate comprising upper and lower surfaces and a first type of hole extending through the upper and lower surfaces and having a first central axis, the first type of hole being elongated in a direction substantially aligned with a longitudinal axis of the bone plate, “wherein the first type of hole is non-threaded and has an outer perimeter, at least a portion of the outer perimeter tapering inward from the upper surface to the lower surface to form at least one ramp surface for engagement with a first screw head; and at least a second type of elongated hole extending through the upper and lower surfaces, the second type of hole having a second central axis and a longitudinal axis, wherein *the hole is at least partially threaded and the threaded portion of the hole tapers inward with respect to the second central axis.*”

The Examiner stated, in support of these rejections, that the hole of the Talos invention is at least partially threaded and that “the threaded portion of the hole tapers inward with respect to the second central axis (since the thread of the screw creates at least a slight taper, e.g., Fig. 7)”. (See Office Action, pp. 2 and 3). Initially, it is noted that the only threaded portion of the screw shown is the threaded *shaft* which is neither tapered nor is it intended for mating with any part of the hole of plate. What is clearly shown in Fig. 7 is a screw with an *un-threaded head* which simply slides into the hole in the plate. Specifically, this type of screw is not configured for

threadable engagement with any part of the hole and thus it is improper to conclude from such a screw the shaping of the threaded part of the hole. That is, the head of the screw - tapered or not - does not interact with the threaded part of the hole as can be clearly seen in Fig. 7.

Furthermore, as made clear by Fig. 5, the threaded portion of the hole contains no such angular displacement since a threaded-head screw configured for engagement with the threaded lower portion of the hole is limited to a single orientation (apparently substantially perpendicular to the plate) and only screws with un-threaded heads are shown to be capable of angular displacement with respect to the central axis of the hole. (See Talos, Figs. 6, 7). Fig. 6 shows a tapered part of the lower portion of the hole on an unthreaded portion thereof while Figs. 5 and 7 show threaded portions of the holes which are apparently completely free of taper. It is respectfully submitted that nothing in the specification or any of the other figures shows or suggests a taper in a threaded part of any hole as claimed.

Thus, it is respectfully submitted that “*the threaded portion of the hole taper[ing] inward with respect to the central axis*” is not disclosed or anticipated by Talos. Accordingly it is respectfully submitted that claim 115 and 141 are allowable and that the Examiner should withdraw the 35 U.S.C. § 102(b) rejection.

Since claims 116 - 140 and claims 142 - 163 depend from and, therefore, include all the limitations of claims 115 and 141 respectively, it is respectfully submitted that these claims are also allowable for at least the reasons stated above.

Claims 1 - 52, and 66 - 114, 116 - 140 and 142 - 163 are rejected under 35 U.S.C. 103(a) as being unpatentable over Talos et al. (US Pat. 5,709,686).

Claim 1 recites a bone plate having a longitudinal axis and comprising an upper surface and a lower surface, the bone plate having “at least one first type of hole, the first type of hole being elongated and extending through the upper and lower surfaces, and having a central axis and a longitudinal axis, wherein *the first type of hole includes a threaded portion and a non-threaded portion, and the threaded portion extends through an angle of between about 190° and about 280° with respect to the central axis*; and at least a second type of hole extending through the upper and lower surfaces, *the second type of hole including an internal thread configured and dimensioned for engaging a threaded portion of a screw head*”.

Claim 27 recites a bone plate having a longitudinal axis and comprising “an upper surface; a lower surface; at least one first type of hole, the first type of hole being elongated and extending through the upper and lower surfaces, and having a central axis and a longitudinal axis, wherein the first type of hole includes a threaded portion and a non-threaded portion, and the threaded portion extends through an angle of between about 190° and about 280° with respect to the central axis; and at least a second type of hole extending through the upper and lower surfaces, wherein the second type of hole is substantially non-threaded”.

Claim 66 recites a bone plate having a longitudinal axis and comprising “an upper surface; a lower surface; at least one first type of hole extending through the upper and lower surfaces, and having a first central axis and being elongated in a direction substantially aligned with the longitudinal axis, wherein the first type of hole is non-threaded and has an outer perimeter, at least a portion of the outer perimeter tapering inward from the upper surface to the lower surface to form at least one ramp surface for engagement with a first screw head; and at least a second type of elongated hole extending through the upper and lower surfaces, the second type of hole having a second central axis and a longitudinal axis, wherein the second type of hole includes a threaded portion and a non-threaded portion, and the threaded portion extends through an angle of between about 190° and about 280° with respect to the second central axis”.

Claim 89 recites a bone plate having a longitudinal axis and comprising “an upper surface; a lower surface; and at least one first type of hole, the first type of hole being elongated and extending through the upper and lower surfaces, and having a central axis a longitudinal axis, wherein the first type of hole is at least partially threaded and the threaded portion of the hole tapers inward with respect to the central axis; and at least a second type of hole extending through the upper and lower surfaces, the second type of hole including an internal thread configured and dimensioned for engaging a threaded portion of a screw head”.

Claim 115 recites a bone plate having a longitudinal axis and comprising: an upper surface; a lower surface; and at least one first type of hole, the first type of hole being elongated and extending through the upper and lower surfaces, and having a central axis and a longitudinal axis, wherein the first type of hole is at least partially threaded and the threaded portion of the hole tapers inward with respect to the central axis; and at least a second type of hole extending through the upper and lower surfaces, wherein the second type of hole is substantially non-threaded.

Claim 141 recites a bone plate having a longitudinal axis and comprising “an upper surface; a lower surface; at least one first type of hole extending through the upper and lower surfaces, and having a first central axis and being elongated in a direction substantially aligned with the longitudinal axis, wherein the first type of hole is non-threaded and has an outer perimeter, at least a portion of the outer perimeter tapering inward from the upper surface to the lower surface to form at least one ramp surface for engagement with a first screw head; and at least a second type of elongated hole extending through the upper and lower surfaces, the second type of hole having a second central axis and a longitudinal axis, wherein the hole is at least partially threaded and the threaded portion of the hole tapers inward with respect to the second central axis”.

The Examiner stated, in support of the rejection, that “the *first type* of hole includes a threaded portion (Fig. 1, ref. 3) and a non-threaded portion (Fig. 1, portion directly below ref. 5); and at least a *second type* of hole (Fig. 1, another ref. 2) extending through the upper and lower surfaces (Fig.1)”, suggests that there are two different types of holes present in the plate. However both of these reference numerals pertain to the same hole and thus this attempt to show the claimed 2 holes by pointing to separate features of a single hole is insufficient to support the rejection. The Examiner further states that there exists a third type of hole which is also invalid since the Examiner has failed to show even a second type of hole.

The current invention allows for enclosing a threaded screw in an angular range. Fig. 5 of Talos clearly shows in at least Fig. 5 that a threaded screw is insertable only in a single position substantially perpendicular to the plate (zero angular displacement) and that angular displacement can only be accomplished via an un-threaded screw as shown in Figs. 6 and 7. Thus Talos does not teach an angular displacement of the threaded portion of the hole enabling angular displacement of a threadedly engaged screw.

It is therefore respectfully submitted that claims 1, 27, 66, 89, 115, and 141, and the claims dependent therefrom, are neither anticipated nor rendered obvious by Talos and it is requested that these rejections be withdrawn.

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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